



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/540,414

03/02/2006

Young Je Park

B-5755PCT 622791-9

4169

36716

7590

02/19/2009

LADAS & PARRY

5670 WILSHIRE BOULEVARD, SUITE 2100

LOS ANGELES, CA 90036-5679

EXAMINER

NGUYEN, CHI Q

ART UNIT

PAPER NUMBER

3635

MAIL DATE

DELIVERY MODE

02/19/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/540,414	Applicant(s) PARK, YOUNG JE	
	Examiner CHI Q. NGUYEN	Art Unit 3635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office action is in response to applicant's patent application filed on 6/24/2005.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 10/4/2006 is being considered by the examiner.

Drawings

Figures 1a and 1b should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-10 are rejected under 35 U.S.C. 102(e) as being anticipated by US Pat. No. 7,357,084 to Wu et al.

Claim 1: Wu et al. disclose in Figs. 6-10, a prestressed composite girder, comprising: shear reinforcing bars 4 and main reinforcing bars 5 arranged across the prestressed composite girder; sheaths (Fig. 6) adapted to contain steel wires arranged across the prestressed composite girder; sole plates 6 placed at ends of the prestressed composite girder and provided with shear connecting members; and steel plates 14/15 placed in upper and lower flanges of the prestressed composite girder and provided with shear connecting members.

Claim 2: wherein the steel plates 14/15 placed in the upper and lower flanges are embedded across an entire length of the prestressed composite girder.

Claim 3: wherein, for a simple bridge, the steel plates 14/15 placed in the upper and lower flanges are embedded across an entire length of the prestressed composite girder except ranges extending from both ends of the prestressed composite girder by about 15% of a span.

Claim 4: wherein, for an outside span of a continuous bridge, the steel plates 14/15 embedded in the upper and lower flanges of the prestressed composite girder are embedded in a negative moment range extending from one end of the prestressed composite girder by about 10-15% of a span.

Claim 5: wherein, for an outside span of a continuous bridge, the steel plates 14/15 embedded in the upper and lower flanges of the prestressed composite girder are embedded in a negative moment range extending from one end of the prestressed

Art Unit: 3635

composite girder by about 10~15% of a span, and a range extending from a point of a greatest positive moment to right and left thereof by about 20%.

Claim 6: wherein, for an inside span of a continuous bridge, the steel plates 14/15 embedded in the upper and lower flanges of the prestressed composite girder are embedded in negative moment ranges extending from both ends of the prestressed composite girder by about 10-15% of a span.

Claim 7: wherein, for an inside span of a continuous bridge, the steel plates 14/15 embedded in the upper and lower flanges of the prestressed composite girder are embedded in negative moment ranges extending from both ends of the prestressed composite girder by about 10-15% of a span, and a range extending from a point of a greatest positive moment to right and left thereof by 20%.

Note that the limitations of claims 3-7 are considered intended use limitations of a device; the prior art of Wu et al. disclose the claimed invention therefore it would capable of performing the similar applications.

Claim 8: Wu et al. disclose in Figs. 6-10, a method of fabricating a prestressed composite girder, comprising: arranging shear reinforcing bars 4 and main reinforcing bars 5 across the prestressed composite girder; arranging sheaths (Fig. 6) containing steel wires across the prestressed composite girder; placing sole plates 6 on ends of the prestressed composite girder; arranging steel plates 14/15 provided with shear connecting members in upper and lower flanges of the prestressed composite girder; casting concrete into the prestressed composite girder; and introducing a compressive

Art Unit: 3635

force to the prestressed composite girder by tensing the steel wires included in the sheaths after the concrete is cured.

Claim 9: wherein, for an outside span of a continuous bridge: the sole plates 6 are placed at one end of the prestressed composite girder where a moment is not generated; and the steel plates 14/15 arranged in the upper and lower flanges of the prestressed composite girder are embedded in a range of negative moments extending from one end of the prestressed composite girder.

Claim 10: wherein, for an inside span of the continuous bridge: the sole plates 6 are not embedded; and the steel plates 14/15 arranged in the upper and lower flanges of the prestressed composite girder are embedded in ranges of negative moments extending from both ends of the prestressed composite girder.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. No. 7,357,084 to Wu et al. in view of US Pat. No. 6,389,764 to Stubler et al.

Claims 11-13: Wu et al. disclose in Figs. 6-10, a continuous prestressed composite girder structure, comprising: upper steel plates 14 embedded in upper flanges of prestressed composite girders, provided with shear connecting members 4, and connected to each other in a butt welding manner 16 ; lower steel plates 15 embedded

Art Unit: 3635

in lower flanges of the prestressed composite girders, provided with shear connecting members 4, and connected to each other in a butt welding manner 16; an upper connecting plate 6 placed on the upper steel plates and welded to the upper steel plates at four sides thereof in a fillet welding manner; a lower connecting plate 15 placed under the lower steel plates and welded to the lower steel plates at four sides thereof in a fillet welding manner 16. Wu et al. disclose the claimed invention as stated but do not disclose expressly an epoxy resin adapted to fill a gap between the prestressed composite girders. Stubler et al. disclose prestressed girder structure including adhesive is used such as epoxy resin (see col. 4, lines 31-32). In view of Stubler et al. it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Wu epoxy resin as taught by Stubler for sealing a gap by structures in order to prevent air leaks.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Chi Q. Nguyen whose telephone number is (571) 272-6847. The examiner can normally be reached on Monday-Friday from 7:30 am-4:00 pm.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Chilcot can be reached at (571) 272-6777.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published

Art Unit: 3635

applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pairedirect.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197.

/C. Q. N./
Examiner, Art Unit 3635
/Richard E. Chilcot, Jr./

Supervisory Patent Examiner, Art Unit 3635